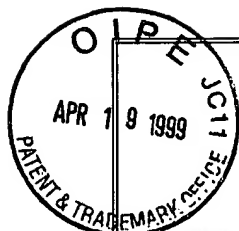


#7



INFORMATION DISCLOSURE CITATION
PTO-1449

ATTORNEY'S DKT NO.

PXE-002P1.US

APPLICATION NO.

09/183,566

APPLICANT: Pamela R. Contag, et al.

FILING DATE: October 30,
1998

GROUP: 1643

U.S. PATENT DOCUMENTS

EXAMINER'S INITIALS	PATENT NO.	DATE	NAME	CLASS	SUBCLASS	FILING DATE
RZ	- 4,745,181	05/17/88	Law, et al.	—	—	
RZ	- 5,281,539	01/25/94	Schramm	—	—	03/27/91
RZ	- 5,283,179	02/01/94	Wood	—	—	09/10/90
RZ	- 5,348,867	09/20/94	Georgiou, et al	—	—	11/15/91
RZ	- 5,418,132	05/23/95	Olivo	—	—	06/18/95
RZ	- 5,466,575	11/14/95	Cozzette, et al.	—	—	09/10/92
RZ	- 5,591,604	01/07/97	Fuchs, et al.	—	—	07/06/92
RZ	- 5,612,184	03/18/97	Rosson, A.	—	—	06/06/95
RZ	- 5,622,868	04/22/97	Clarke, et al.	—	—	06/05/95
RZ	- 5,650,135	07/22/97	Contag, et al.	—	—	07/01/94

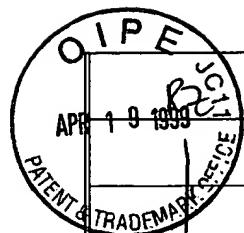
FOREIGN PATENT DOCUMENTS

EXAMINER'S INITIALS	PATENT NO.	DATE	COUNTRY	CLASS	SUBCLASS	Translation
RZ	- 0 730 868 A1	02/19/96	EP	—	—	
RZ	- WO 86/01805	03/27/86	PCT	—	—	
RZ	- WO 86/01806	03/27/86	PCT	—	—	
RZ	- WO 91/01305	02/07/91	PCT	—	—	
RZ	- WO 97/08553	3/06/97	PCT	—	—	

OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc.)

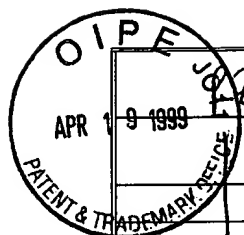
RZ	Allgood, et al. 1997 "Chimeric receptors as gene switches." <i>Current Opinion in Biotechnology</i> 8:474-479.
	Askin, 1995 "Bacterial and Fungal Infections in the Neonate." <i>Journal of Obstetric, Gynecologic, Neonatal Nurses</i> 24(7):635-643
	Benaron, et al. 1993 "Medical Optical Tomography: Functional Imaging and Monitoring." <i>Spie Optical Engineering Press</i> : 3-9
	Benaron, et al. 1993 "Optical Time-of-Flight and Absorbance Imaging of Biologic Media." <i>Science</i> 259:1463-1466.
	Benaron, et al. 1994 "Resolution of Near Infrared Time-of-Flight Brain Oxygenation Imaging." <i>Advances in Experimental Medicine and Biology</i> 345:609-617.
	Ben-Israel, et al. 1998 "Identification and Quantification of Toxic Chemicals by Use of <i>Escherichia coli</i> Carrying <i>lux</i> Genes Fuse to Stress Promoters." <i>Applied and Environmental Microbiology</i> 64(11):4346-4352.
	Billard, et al. 1998 "Bioluminescence-Based Assays for Detection and Characterization of Bacteria and Chemicals in Clinical Laboratories." <i>Clinical Biochemistry</i> 31:1-14.
	Blom, et al. 1993 "A Baculovirus-Expressed Fusion Protein Containing the Antibody-Binding Domain of Protein A and Insect Luciferase." <i>BioTechniques</i> 14(5):800-809.
	Blum, et al. 1989 "Design of luminescence photobiosensors." <i>Journal of Bioluminescence and Chemiluminescence</i> 4:543-550.
	Borrebaeck, et al. 1992 "Kinetic analysis of Recombinant Antibody-Antigen Interactions: Relation Between Structural Domains and Antigen Binding." <i>Biotechnology</i> 10(60):697-698
+	Braiser, et al. 1992 "Luciferase Reporter Gene Assay in Mammalian Cells." <i>Meth. In Enzymology</i> 216:386-396.
RZ	Brennan, et al. 1995 "A molecular sensor system based on genetically engineered alkaline phosphatase." <i>Proc. Natl. Acad. Sci. USA</i> 92:5783-5787.

09 183 5266



	Cai., et al. 1997 "Use of a luminescent bacterial biosensor for biomonitoring and characterization of arsenic toxicity of chromated copper arsenate (CCA)" <i>Biodegradation</i> 8:105-111.
	Candido, et al. 1996 "Transgenic <i>Caenorhabditis elegans</i> strains as biosensors." <i>Trends in Biotechnology</i> 14:125-129.
	Casadei, et al. 1990 "Expression and secretion of aequorin as a chimeric antibody by means of a mammalian expression vector." <i>Proc. Natl. Acad. Sci. USA</i> 87:2047-2051
	Clark, et al. 1994 "Unsuspected Primary Human Immunodeficiency Virus Type 1 Infection in Seronegative Emergency Department Patients." <i>The Journal of Infectious Diseases</i> 170:194-197.
	Collet, et al. 1992 "A binary plasmid system for shuffling combinatorial antibody libraries." <i>Proc. Natl. Acad. Sci. USA</i> 89:10026-10030.
	Contag, et al. 1995 "Photonic detection of bacterial pathogens in living hosts." <i>Molecular Microbiology</i> 18(4):593-603.
	Contag, et al. 1997 "Visualizing Gene Expression in Living Mammals Using a Bioluminescent Reporter." <i>Photochemistry and Photobiology</i> 66(4):523-531.
	Danilov, et al. 1989 "Bacterial Luciferase as a Biosensor of Biologically Active Compounds." <i>Biotechnology</i> 11:39-78.
	DiLella, et al. 1988 "Utility of firefly luciferase as a reporter gene for promoter activity in transgenic mice." <i>Nucleic Acids Research</i> 16(9):4159.
	Enberg, et al. 1994 "Growth hormone (GM) regulation of a rat protease inhibitor fusion gene in cells transfected with GH receptor cDNA." <i>Journal of Molecular Endocrinology</i> 12:39-46.
	Frackman, et al. 1990 "Cloning, Organization, and Expression of the Bioluminescence Genes of <i>Xenorhabdus luminescens</i> ." <i>Journal of Bacteriology</i> 172(10):5767-5773.
	Francisco, et al. 1994 "The Expression of Recombinant Proteins on the External Surface of <i>Escherichia coli</i> ." <i>Ann. NY. Acad. Sci</i> 745:372-383.
	Fuchs, et al. 1991 "Targeting Recombinant Antibodies to the Surface of <i>Escherichia Coli</i> . Fusion to a peptidoglycan Associated Lipoprotein." <i>Biotechnology</i> 9:1369-1372.
	Georgiou, et al. 1993 "Practical applications of engineering Gram-negative bacterial cell surfaces." <i>Tibtech</i> 11:6-10.
	Georgiou, et al. 1997 "Display of heterologous proteins on the surface of microorganisms: From the screening of combinatorial libraries to live recombinant vaccines." <i>Nature biotechnology</i> 15:29-34.
	Griffiths, et al. 1998 "Strategies for selection of antibodies by phage display." <i>Current Opinion in biotechnology</i> 9:102-108.
	Guzzo, et al. 1992 "Characterization of the effects of aluminum on luciferase biosensors for the detection of ecotoxicity." <i>Toxicology Letters</i> , 64/65:687-693.
	Hannibal, et al. 1994 "Multiple cis-acting elements in the human immunodeficiency virus type 2 enhancer mediate the response to T-cell receptor stimulation by antigen in a T-cell hybridoma line." <i>Blood</i> 83(7):1839-1846.
	Harlow, et al. 1988 "Antibodies. A Laboratory Manual." <i>Cold Spring Harbor Laboratory Press</i> .
	Hasemann, et al. 1989 "Immunoglobulins: Structure and Function", In <i>Fundamental Immunology</i> 2 nd (Ed.) W.E. Paul:209-233.
	Heitzer, et al. 1994 "Optical Biosensor for Environmental On-Line Monitoring of Naphthalene and Salicylate Bioavailability with an Immobilized Bioluminescent Catabolic Reporter Bacterium." <i>Applied an Environmental Microbiology</i> 60(5):1487-1494.
	Hickey, et al. 1996 "Luciferase <i>in Vivo</i> Expression Technology: Use of Recombinant Mycobacterial Reporter Strains to Evaluate Antimycobacterial Activity in Mice." <i>Antimicrobial Agents and Chemotherapy</i> 40(2):400-407
	Hoogenboom, et al. 1991 "Multi-subunit proteins on the surface of filamentous phage: methodologies for displaying antibody (Fab) heavy and light chains." <i>Nucleic Acids Research</i> 19(15):4133-4137.
	Hooper, et al. 1994 "Low-Light Imaging Technology in the Life Sciences." <i>Journal of Bioluminescence and Chemiluminescence</i> 9:113-122.
	Horan, et al. 1990 "Fluorescent Cell Labeling for <i>in vivo</i> and <i>in vitro</i> cell Tracking." <i>Methods in Cell Biology</i> 33:469-490.
R2	Huse, et al. 1989 "Generation of a Large Combinatorial Library of the Immunoglobulin Repertoire in Phage Lambda." <i>Science</i> 246:1275-1281.

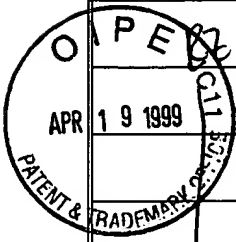
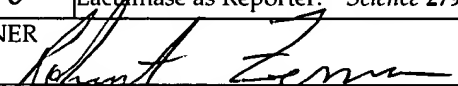
09183566



Israel, 1991 "Bioluminescence assay for gene expression by continuously growing mammalian cells: application for detection of human immunodeficiency virus type 1 (HIV-1)." <i>Gene</i> 104:139-145.
Jassim, et al. 1990 "In vivo Bioluminescence: A Cellular Reporter for Research and Industry." <i>Journal of Bioluminescence and Chemiluminescence</i> 5:115-122.
Karube, et al. 1994 "Immobilized cells used for detection and analysis." <i>Currn. Opin. Biotechnol.</i> 5(10):54-59.
Kasahara, et al. 1991 "Molecular Analysis of the Salmonella typhimurium phoNGene, Which Encodes Nonspecific Acid Phosphatase." <i>Journal of Bacteriology</i> 173(2):6760-6765.
Kasahara, et al. 1992 "Molecular Analysis of the Escherichia coli phoP-phoQ operon." <i>Journal of Bacteriology</i> 174(2):492-498.
Kobatake, et al., 1995 "Biosensing of benzene derivatives in the environment by luminescent <i>Escherichia coli</i> " <i>Biosensors & Bioelectronics</i> 10:601-605.
Kohl, et al. 1990 "Engineered gene for <i>Escherichia coli</i> alkaline Phosphatase for the construction of transnational fusions." <i>Nucleic Acids Res.</i> 18:1069.
Kohl, et al. 1991 "Cloning and Expression of an HIV-1 Specific Single-Chain F ₂ Region Fused to <i>Escherichia coli</i> Alkaline Phosphatase." <i>Ann NY Acad Sci.</i> 646:106-114.
Korpela, et al. 1989 "Stable-light emitting <i>Escherichia coli</i> as a Biosensor." <i>Journal of Bioluminescence and Chemiluminescence</i> 4(1):551-554.
Kovacs, et al. 1991 "Firefly luciferase as a marker for herpesvirus (pseudorabies virus) replication <i>in vitro</i> and <i>in vivo</i> ." <i>J. Gen. Virol.</i> 72:2999-3008.
Kricka, 1991 "Chemiluminescent and Bioluminescent Techniques." <i>Clinical Chemistry</i> 37(9):1472-1481.
Kubo, et al. 1991 "Whole-Organism Based Biosensors and Microbiosensors." <i>Advances in Biosensors</i> 1:1-32.
Little, et al. 1993 "Bacterial surface presentation of proteins and peptides: an alternative to phage technology?" <i>Tibetech</i> 11:3-5.
Little, et al. 1995 "Human Antibody libraries in <i>Escherichia coli</i> ." <i>Journal of Biotechnology</i> 41:187-195.
Mackey, et al. 1994 "Thermostability of bacterial luciferases expressed in different microbes." <i>J. Appl. Bacteriology</i> 77:149-54.
Mayer, et al. 1994 "Luminescent Labels-More than Just an Alternative to Radioisotopes?." <i>Angewandte Chemie International Edition</i> 33:1044.
McCafferty, et al. 1990 "Phage antibodies: filamentous phage displaying antibody variable domains." <i>Nature</i> 348:552-554.
Meighen, 1993 "Bacterial bioluminescence: organization, regulation, and application of the lux genes." <i>The FASEB Journal</i> 7:1016-1022.
Miller, et al. 1989 "A two-component regulatory system (phoP phoQ) controls <i>Salmonella typhimurium</i> virulence." <i>Proc. Natl. Acad. Sci USA</i> 86:5054-5058.
Miller, 1991 "PhoP/PhoQ: macrophage-specific modulators of <i>Salmonella</i> virulence?" <i>Molecular Microbiology</i> 5(9):2073-2076.
Mueller-Klieser, et al. 1993 "Geographical mapping of metabolites in biological tissue with quantitative bioluminescence and single photon imaging." <i>Histochemical Journal</i> 25:407-420.
Orum, et al. 1993 "Efficient method for constructing comprehensive murine Fab antibody libraries displayed on phage." <i>Nucleic Acids Research</i> 21(19):4491-4498.
Ottemann, et al. 1993 "Converting a transmembrane receptor to a soluble receptor: Recognition domain to effector domain signaling after excision of the transmembrane domain." <i>Proc. Natl. Acad. Sci. USA</i> 94:11201-11204.
Parkinson, 1993 "Signal Transduction Schemes of Bacteria." <i>Cell</i> 73:857-871.
Phadke, 1992 "Biosensors and enzyme immobilized electrodes." <i>BioSystems</i> 27(40):203-206.
Piatak, et al. 1993 "Determination of plasma viral load in HIV-1 infection by quantitative competitive polymerase chain reaction." <i>Aids Supplemental</i> , 7(supp 2):S65-S71.
Prest, et al., 1997 "The construction and application of a lux-based nitrate biosensor" <i>Letters in Applied Microbiology</i> 24:355-360.
Ramanathan, et al. 1997 "Bacterial biosensors for monitoring toxic metals." <i>Trends Biotechnol</i> 15:500-506.
Ronald, et al. 1990 "Construction of broad-host-range vectors for the selection of divergent promoters." <i>Gene</i> 90:145-148.

P2

09183566

	<input checked="" type="checkbox"/>	Rupani, et al. 1996 "Characterization of the Stress Response of a Bioluminescent Biological Sensor in Batch and Continuous Cultures." <i>Biotechnol. Prog.</i> 12:387-392.
	<input checked="" type="checkbox"/>	Sedlack, et al. 1995 "Bioluminescent Technology for Reagents, Diagnostics and Toxicology." <i>Genetic Engineering News Genetic Engineering News</i> 8 (September 15, 1995).
	<input checked="" type="checkbox"/>	Selifonova, et al. 1993 "Bioluminescent Sensors for Detection of Bioavailable Hg(II) in the Environment." <i>Applied and Environmental Microbiology</i> 59(9):3083-3090.
	<input checked="" type="checkbox"/>	Soncini, et al. 1995 "Transcriptional Autoregulation of the Salmonella typhimurium phoPQ operon." <i>Journal of Bacteriology</i> 177(5):4364-4371.
	<input checked="" type="checkbox"/>	Soncini, et al. 1996 "Molecular Basis of the Magnesium Deprivation Response in Salmonella typhimurium Identification of PhoP-Regulated Genes." <i>Journal of Bacteriology</i> 178(17):5092-5099.
	<input checked="" type="checkbox"/>	Stahl, et al. 1997 "Bacterial surface display: trends and progress." <i>Tibtech</i> 15:185-192.
	<input checked="" type="checkbox"/>	Sticher, et al., 1997 "Development and Characterization of a Whole-Cell Bioluminescent Sensor for Bioavailable Middle-Chain Alkanes in Contaminates Groundwater Samples" <i>Applied and Environmental Microbiology</i> 63:4053-4060.
	<input checked="" type="checkbox"/>	Swift, et al. 1994 "Gram-negative bacterial communication by N-acyl homoserine lactones: a universal language?" <i>Trends in Microbiology</i> 193:2(6):193-198.
	<input checked="" type="checkbox"/>	Szittner, et al. 1990 "Nucleotide Sequence, Expression, and Properties of Luciferase Coded by lux Genes from a Terrestrial Bacterium." <i>Journal of Biological Chemistry</i> 265:16581-16587.
	<input checked="" type="checkbox"/>	Tatsu, 1990 "Homogeneous chemiluminescent Immunoassay Based on Complement-Mediated Hemolysis of Red Blood Cells." <i>Analytical Chemistry</i> 62:2103-2106.
	<input checked="" type="checkbox"/>	Ulitzur, 1997 "Review Paper: Established Technologies and New Approaches in Applying Luminous Bacteria of Analytical Purposes." <i>J. Biolumin Chemilumin</i> 12:179-192.
	<input checked="" type="checkbox"/>	Van Dyk, et al. 1994 "Rapid and sensitive pollutant detection by induction of heat shock gene-bioluminescent gene fusions." <i>Applied and Environmental Microbiology</i> 60(50):1414-1420.
	<input checked="" type="checkbox"/>	Vescovi-Garcia, et al. 1996 "MG2+ as an Extracellular Signal: Environmental Regulation of Salmonella Virulence." <i>Cell</i> 84:165-174.
	<input checked="" type="checkbox"/>	von Bally, et al. 1981 "Optics in Biomedical Sciences." <i>Proceedings of the International Conference, Berlin, New York: Springer-Verlag.</i>
	<input checked="" type="checkbox"/>	Weiss, et al. 1994 "Application of an alkaline phosphatase fusion protein system suitable for efficient screening and production of Fab-enzyme conjugates in Escherichia coli." <i>Journal of Biotechnology</i> 33:43-53.
	<input checked="" type="checkbox"/>	Willardson, et al. 1998 "Development and Testing of a Bacterial Biosensor for Toluene-Based Environmental Contaminants." <i>Applied and Environmental Microbiology</i> 64(3):1006-1012.
	<input checked="" type="checkbox"/>	Wood, et al. 1996 "Transduction in microbial biosensors using multiplexed bioluminescence." <i>Biosensors & Bioelectronics</i> 11(3):207-214.
	<input checked="" type="checkbox"/>	Xi, 1991 "Cloning and Nucleotide Sequences of lux Genes and Characterization of Luciferase of Xenorhabdus luminescens from a Human Wound." <i>Journal of Bacteriology</i> 173:1399-1405.
	<input checked="" type="checkbox"/>	Wilmes-Riesenberg, et al. 1992 "TnphoA and TnphoA' elements for making and switching fusions for study of transcription, translation, and cell surface localization." <i>J. Bacteriol</i> 174:4558-75
	<input checked="" type="checkbox"/>	Zhang, et al. 1994 "Luciferase activity as a marker of tumor burden and as an indicator of tumor response to antineoplastic therapy in vivo." <i>Clin. Exp. Metastasis</i> 12(12):87-92.
<input checked="" type="checkbox"/>	Zipkin, 1997 "Xenogen: Peering into hidden regions." <i>Biocentury</i> (The Bernstein Report) Dec 8, 1997.	
<input checked="" type="checkbox"/>	Zlokarnik, et al. 1998 "Quantitation of Transcription and Clonal Selection of Single Living Cells with B-Lactamase as Reporter." <i>Science</i> 279:84-88	
EXAMINER		DATE CONSIDERED 11/21/2000

EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609; draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.